

REMARKS

Claims 1-7 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim et al. (GB 2,315,245) in view of Rho et al. (US 6,057,896), Te Velde (US 5,238,435), Kubo et al. (US 6,330,047), Keyser (US 5,485,055), and Tanaka et al. (US 6,137,559); claims 8-10 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim et al. in view of Rho et al., Te Velde, Kubo et al. ('047), Keyser, Tanaka et al., and Cordes et al. (US 6,332,569); claims 11 and 24 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim et al. in view of Rho et al., Te Velde, Kubo et al. (US 6,195,140), Keyser, and Tanaka et al.; and claim 14 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kim et al. in view of Rho et al., Te Velde, Kubo et al. ('140), Keyser, Tanaka et al., and Cordes et al. Claims 12, 13, 15, 16, 18-23, and 25-28 are objected to.

Applicant respectfully traverses all rejections as being based upon combinations of references that neither teach nor suggest the novel combination of features recited in independent claims 1, 8, 11, 14, 17, and 24, and hence dependent claims 2-7, 9, 10, 12, 13, 15, 16, 18-23, and 25-28.

Independent claims 1 and 8 both recite a liquid crystal display device including at least a plurality of etching holes, wherein "the gate insulating layer within the etching holes has at least one concave and convex portions." Similarly, independent claims 11 and 14 both recite a method of fabricating a liquid crystal display device including at least a step of forming a plurality of etching holes, wherein "the gate insulating layer within the etching holes has at least one concave and convex portions."

Independent claim 17 recites an array substrate for a liquid crystal display device including at least a seal pattern lines each disposed within a seal pattern area along edges of the passivation layer, wherein “the seal pattern area has a plurality of internal indentations and external projection.” Similarly, independent claim 24 recites a method of forming a seal pattern for a liquid crystal display device including at least a step of “etching portions of the passivation and gate insulating layers which correspond to the seal pattern area to form a plurality of internal indentations and external projection.”

At least these features of independent claims 1, 8, 11, 14, 17, and 24 are neither taught nor suggested by Kim et al., Rho et al., Te Velde, Kubo et al. ('047), Kubo et al. ('140), Keyser, Tanaka et al., and/or Cordes et al., whether taken singly or combined.

The Office Action admits that Kim et al. fails to teach or suggest these features of the claimed invention. Thus, the Office Action relies upon combinations of Rho et al., Te Velde, Kubo et al. ('047), Kubo et al. ('140), Keyser, Tanaka et al., and/or Cordes et al. to remedy the deficiencies of at least Kim et al. As a result, the Office Action alleges that it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Kim et al. “in order to have [make] a liquid crystal display device with better performance.”

However, none of Rho et al., Te Velde, Kubo et al. ('047), Kubo et al. ('140), Keyser, Tanaka et al., and/or Cordes et al., whether taken singly or combined, teaches or suggests a liquid crystal display device or method of making a liquid crystal display device including the features of independent claims 1, 8, 11, and 14. Likewise, none of Rho et al., Te Velde, Kubo et al. ('047), Kubo et al. ('140), Keyser, Tanaka et al., and/or Cordes et al., whether taken singly or

combined, teach or suggest an array substrate or a method of forming a seal pattern including the features of independent claims 17 and 24.

Applicant respectfully asserts that the Office Action's alleged motivation to modify Kim et al., Rho et al., Te Velde, Kubo et al. ('047), Kubo et al. ('140), Keyser, Tanaka et al., and/or Cordes et al. "in order to have [make] a liquid crystal display device with better performance" is not taught or suggested in any of Kim et al., Rho et al., Te Velde, Kubo et al. ('047), Kubo et al. ('140), Keyser, Tanaka et al., and/or Cordes et al., whether taken along or in combination. Accordingly, Applicant respectfully notes that MPEP 2143.01 instructs that "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention, where there is some teaching, suggestion or motivation to do so found in either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art."

Moreover, MPEP 2143 instructs that "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless that prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)." Thus, Applicant asserts that the Office Action has not provided any motivation for one of ordinary skill in the art to modify any of the teachings of Kim et al. with the teachings of any of Rho et al., Te Velde, Kubo et al. ('047), Kubo et al. ('140), Keyser, Tanaka et al., and/or Cordes et al. to achieve the invention of independent claims 1, 8, 11, 14, 17, and 24.

Since the Office Action fails to meet the requirements for establishing a *prima facie* case of obviousness as to independent claims 1, 8, 11, 14, 17, and 24, claims 1, 8, 11, 14, 17, and 24 are not obvious. Further, since claims 2-7, 9, 10, 12, 13, 15, 16, 18-23, and 25-28 depend from

claims 1, 8, 11, 14, 17, and 24 and incorporate all the features of claims 1, 8, 11, 14, 17, and 24, claims 2-7, 9, 10, 12, 13, 15, 16, 18-23, and 25-28 are not obvious at least for at least the above reasons for which independent claims 1, 8, 11, 14, 17, and 24 are not obvious. Thus, Applicant respectfully requests that the rejections of claims 1-28 under 35 U.S.C. § 103(a) be withdrawn.

Conclusion

In view of the foregoing amendments and remarks, Applicant respectfully requests reconsideration and the timely allowance of the pending claims. Should the Examiner believe that there are any issues outstanding after consideration of this response, the Examiner is invited to contact Applicant's undersigned representative to expedite prosecution.

If there are any other fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension of time under 37 C.F.R. § 1.136 not accounted for above, such an extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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